HUNTSMAN

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July 8, 2014

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Ms. Bonnie Hriczko
Removal Action Branch
U.S. Environmental Protection Agency, Region II
2890 Woodbridge Avenue, Bldg 205 (MS-211)
Edison, New Jersey 08837

Re: Response to CERCLA Section 104(e) Information Request
Superior Barrel and Drum Site
Elk, Gloucester County, New Jersey

Dear Ms. Hriczko:

Please refer to the EPA's CERCLA Section 104(e) Information Request to Huntsman Corporation regarding the Superior Barrel and Drum Site. Enclosed please our responses to the Section 104(e) questions, along with a detailed description of Huntsman's due diligence efforts in researching this matter.

If you have any questions regarding this response, please do not hesitate to contact me. My direct telephone number is (281) 719-3010.

Sincerely,

Lon F. Tullos
Manager - EHS Financial and Legacy Matters
Huntsman International LLC
8600 Gosling Road
The Woodlands, Texas 77381

Enclosure

cc: Mr. William Tucker, Esq.
Office of Regional Counsel
U.S. Environmental Protection Agency, Region II
290 Broadway, 17th Floor
New York, New York 10007

489818

Huntsman's Response to Request for Information
Pursuant to Section 104 of CERCLA
Superior Barrel and Drum Site, Elk, Gloucester County, New Jersey

On or about June 18, 2014, Huntsman received letter correspondence from EPA Region II dated June 13, 2014 indicating that the company had failed to respond to a January 15, 2014 "Request for Information" pursuant to Section 104(e) of CERCLA relating to the Superior Barrel and Drum ("SBD") Site. Upon receipt of the June 13 letter, Huntsman immediately contacted Ms. Bonnie Hriczko of the EPA to notify her that those within Huntsman responsible for these types of matters had neither seen nor received the initial Information Request. The information provided by Ms. Hriczko indicated that the original January 15 certified letter had been signed for by a security guard at Huntsman's Salt Lake City office. Even following additional inquiry within Huntsman, we have been unable to locate the original January 15 letter. However, during our June 18 phone conversation with Ms. Hriczko and as confirmed in a subsequent email exchange, EPA granted Huntsman 30 days, or until July 18, 2014, within which to respond to the CERCLA Section 104(e) Information Request. Huntsman is very appreciative of EPA's willingness to grant us an opportunity to timely respond to the Information Request. Please find below, some due diligence background information and Huntsman's response to the questions contained in the Information Request.

Description of Huntsman's Due Diligence Regarding the Request for Information. On June 24, 2014, in response to a June 18, 2014 telephone request by Huntsman to help understand the possible "nexus" between Huntsman and the SBD Site, EPA provided two photographs of a single drum and a one-page copy of a "Drum Inventory Log" prepared by Kemron Environmental Services. One of the photographs shows a label displaying the Huntsman corporate logo and the chemical trade name "Rubinate." The Rubinate® line of products is manufactured in the United States exclusively at Rubicon LLC, a Huntsman joint venture with Chemtura Corporation, located in Geismar, Louisiana. Rubinate® products are fast curing methyl diisocyanate ("MDI") based resins for the composite wood panel industry (e.g., oriented strand board, medium density fiberboard, and particle board). Rubicon is part of Huntsman's Polyurethanes business division.

Prior to receiving the photograph of the label, Huntsman began a search for potentially responsive records focusing on two former Huntsman facilities located in West Deptford and Woodbury, New Jersey, which closed in 2004 and 1999, respectively, but which had been located approximately 10-15 miles from the SBD Site. A computer file search of records in long-term off-site storage ("Recall") was performed using a variety of potentially relevant key word search parameters. No records were identified using search terms specifically related to the SBD Site. However, one archived box was responsive to the search terms "Waste," "Disposal," and "West Deptford." However, when the archived box was specified for extraction, it was identified as having been routinely destroyed in June 2013 in accordance with Huntsman's corporate Record Retention Policy. A separate inquiry by telephone with the Huntsman Polyurethanes Division personnel in the Woodlands, Texas corporate office confirmed that no

environmental, health and safety ("EHS") related records from West Deptford were maintained at that location. The West Deptford site included an office building, research lab and a small blending operation. Although no Rubinate® was produced at this facility, knowledgeable personnel reported that Rubinate® from Geismar was occasionally received by drum shipment at the West Deptford site. Separate records searches for the Woodbury facility did not identify any potentially responsive documents in long-term off-site storage. As a non-polyurethanes facility, Woodbury was an unlikely source of the drum, but we nonetheless conducted the records search due to its proximity to the SBD Site.

Upon receipt of the photos from EPA on June 24, which identified the Rubinate® product name on the drum label at the SBD Site, we contacted the EHS personnel at our Rubicon facility in Geismar, Louisiana, where the Rubinate® product is manufactured. Upon review of their previous purchasing system (MPAC), our Rubicon site personnel confirmed that Superior Barrel and Drum was not an approved vendor for our Geismar facility, and thus would not have been approved for payment within our internal accounting system. Additionally, knowledgeable EHS personnel at Rubicon reported that the site uses only one company for reconditioning drums – Industrial Container Service Texas LLC, which is located near Houston, Texas. While not definitive, and without speculating, while the drum originated in Geismar, Louisiana, Huntsman's practices would have prevented the drum from being sent directly to SBD, which is further substantiated by the absence of Huntsman purchasing records associated with SDB.

Rubicon's MPAC purchasing system was replaced with the Systems, Applications and Products (SAP) software system in 2002. We instructed key package logistics personnel at Rubicon to review their SAP sales orders. Under the SAP system, in order to place an order, customers must have a customer number, which includes the "ship to" address, contacts, payment terms, etc. A search of the SAP system revealed that Rubicon has no customers listed for the city of Elk, New Jersey. Thus, based on a thorough review of the current and former purchasing/accounting databases, Huntsman found no evidence to suggest that Rubinate®, or any material for that matter, was ever shipped to the SBD Site.

The only other potentially useful information from the drum photographs was the drum label number of "004016." Using this piece of information, knowledgeable Product EHS personnel from Huntsman's corporate office searched the company's internal product chemical information system for additional information. The search revealed that Label No. 4016 identifies the original drum contents as Rubinate® 1225. The corresponding Material Safety Data Sheet ("MSDS") indicates that Rubinate® 1225 consists of 97.784-99.87% diphenylmethane 4,4'-diisocyanate, which is described as a solid material. Knowledgeable Rubicon personnel report that Rubinate® 1225 is a solid when frozen (the preferred shipping method), but when kept at ambient temperature, the liquid product will begin to crystallize into a solid. Moreover, the liquid would be clear or a cloudy white in color. The Kemron Environmental Services "Drum Inventory Log" provided by EPA described the contents of the drum in question as being 100% "purple liquid." This suggests that the liquid material in the Huntsman-labeled drum in question at the SBD Site is not the original drum contents (*i.e.*, Huntsman Rubinate® 1225) but

rather an unknown material placed in a Huntsman drum or the Huntsman Rubinate® 1225 product contaminated with other material by or from another party.

According to the "Drum Inventory Log" provided by EPA and prepared by Kemron Environmental Services, the drum in question at the SBD site bearing a Huntsman Rubinate® 1225 label was a 55-gallon, ringtop steel drum. However, knowledgeable product shipping personnel at Geismar reported that Rubinate® 1225 is always shipped in closed ("tight") topped drums, which has been an industry standard, safe handling practice for MDI shipments for more than 20 years. Rubicon adopted this closed topped drum-only MDI packaging practice in the mid-1980's. Rubicon personnel also reported that Rubinate® 1225 is also shipped in closed top drums of less than 55 gallons in volume. Neither of the photographs of the drum provided by the EPA showed the top of the drum, therefore the description provided by Kemron could not be verified by Huntsman. Additionally, without more specific information about the drum (e.g., lot or batch number), no manufacturing record research regarding the age of the drum could be pursued.

One scenario ruled out by Rubicon was a customer or distributor transferring bulk Rubinate® 1225 into an open top drum and then applying a Huntsman Rubinate® 1225 label. Rubinate® 1225 is not shipped in bulk quantities from Geismar (e.g., by tank wagon) to customers or distributors, thus this scenario is not a viable one. However, one possible drum labelling explanation was postulated by Rubicon and has occurred in the past. Should a leak of a smaller-than-55-gallon Rubinate® 1225 container occur after the material had been shipped to a customer from Geismar, Rubicon would work with the customer to respond to the situation. In that instance, an open-top 55-gallon drum would be used as an "over-pack" container (a common industry practice) and Rubicon would provide a Rubinate® 1225 label for the 55-gallon drum. This is considered the most plausible explanation for a Rubinate® 1225 label to be found on a 55-gallon open top drum. However, if this scenario did occur in the past and involved the SBD drum in question, the over-packed contents were replaced by someone with the unknown "purple liquid" at some point.

REQUEST FOR INFORMATION

General Information about the Company

1. a. State the correct legal name of the Company.

Response: ***The correct legal name of the Company is Huntsman International LLC. The correct legal name of the Company that manufactured the drum is Rubicon LLC (which is 50% owned by Huntsman International LLC).***

b. Identify the legal status of the Company (corporation, partnership, specify if other) and the state in which the Company was organized.

Response: ***Huntsman International LLC and Rubicon LLC are both corporations.***

c. State the name(s) and address(es) of the officer(s) of the Company.

Response # 1: ***The officers of Huntsman International LLC are listed on page 2 of Enclosure 1. The listed officers (with office titles) are located as follows:***

AMERICAS

- ***Huntsman International LLC, 500 Huntsman Way, Salt Lake City, Utah 84108***
  - ***Jon M. Huntsman (Executive Chairman)***
  - ***J. Kimo Esplin (Executive Vice President and Chief Financial Officer)***
  - ***Randy W. Wright (Vice President and Controller)***
  - ***Steven C. Jorgensen (Vice President, Accounting Shared Services and Controls)***
  - ***Kurt D. Ogden (Vice President, Investor Relation)***
  - ***John R. Heskett (Vice President, Planning and Treasurer)***
  - ***Kevin C. Hardman (Vice President, Tax)***
  - ***Rachel K. Muir (Assistant Secretary)***
  - ***Troy M. Keller (Assistant Secretary)***
  - ***Brandon M. Gray (Assistant Treasurer)***

- ***Huntsman International LLC, 10003 Woodloch Forest Drive, The Woodlands, Texas 77380***
  - ***Peter R. Huntsman (President and Chief Executive Officer)***
  - ***James H. Huntsman (Division President, Advanced Materials)***
  - ***Stewart A. Monteith (Division President, Performance Products)***

- ***Anthony P. Hankins (Division President, Polyurethanes and Chief Executive Officer, Asia-Pacific)***
- ***David M. Stryker (Executive Vice President, General Counsel, Corporate Compliance Officer and Secretary)***
- ***Russell R. Stolle (Senior Vice President and Deputy General Counsel)***
- ***R. Wade Rogers (Senior Vice President, Global Human Resources)***
- ***Brian W. Ridd (Senior Vice President, Purchasing)***
- ***Maria Csiba-Womersley (Vice President and Chief Information Officer)***

➢ ***Huntsman International LLC, 8600 Gosling Road, The Woodlands, Texas 77381***

- ***Ronald M. Gerrard (Senior Vice President, Environmental, Health and Safety and Manufacturing Excellence)***

EUROPE

➢ ***Titanium House, Hanzard Drive, Wynyard Park, Stockton-on-Tees, TS22 5FD, UK***

- ***Simon J. Turner (Division President, Pigments)***

➢ ***Huntsman International LLC, Everslaan 45, 3078 Everberg, Belgium***

- ***Pierre Poukens (Vice President, Internal Audit)***

ASIA-PACIFIC

➢ ***Huntsman International LLC, 152 Beach road, 29-00Gateway East, Singapore 189721***

- ***Paul G. Hulme (Division President, Textile Effects)***

Response # 2: ***The officers of Rubicon LLC are listed on page 2 of Enclosure 2. The listed officers (with office titles) are located as follows:***

AMERICAS

➢ ***Huntsman International LLC, 10003 Woodloch Forest Drive, The Woodlands, Texas 77380***

- ***David C. Kocian (Assistant Secretary)***
- ***Eric Phillips (President)***
- ***Nicholas Gonzales Nagels (Treasurer)***

➢ ***Rubicon LLC, 9156 Highway 75, P. O. Box 517, Geismar, Louisiana 70734***

- ***Mark K. Dearman (General Manager)***
- ***Brad Moreau (Assistant Treasurer)***

- ***Chemtura Corporation, 199 Benson Road, Middlebury, Connecticut 06749***
  - ***Eric Werner (Chairman of the Board)***
  - ***Maria Thompson (Assistant Secretary)***
  - ***Gregory Oehley (Secretary)***

d. If the Company has subsidiaries or affiliates, or is a subsidiary of another organization identify these related companies and state the name(s) and address(es) of the officer(s) of those organizations. Provide the same information for any further parent/subsidiary relationships.

Response: ***Huntsman objects to this request as overly broad, unduly burdensome, and not calculated to lead to the discovery of useful information. Without waiving this objection and trying to be responsive to the request, please see Enclosures 1 and 2.***

e. If the Company is a successor to, or has been succeeded by, another, identify such other company and provide the same information requested above for the predecessor or successor company.

Response: ***Huntsman objects to this request as overly broad, unduly burdensome, and not calculated to lead to the discovery of useful information. Without waiving this objection and trying to be responsive to the request, please see Enclosures 1 and 2.***

f. If the Company transacted business with SBD in the name of an entity not already disclosed, give the name of such entity and state its relationship to the Company.

Response: ***After conducting the due diligence described in the preamble, Huntsman did not identify any information regarding, describing, or suggesting any transaction between Huntsman or any other Huntsman-related entity and SBD.***

2. a. Describe in detail the nature of your Company's business during the years 1974 to the present. If the nature of the business has not been constant, describe the changes that have occurred, including any name changes, and when they occurred.

Response: ***Huntsman objects to this request as overly broad, unduly burdensome, and not calculated to lead to the discovery of useful information. Without waiving this objection and trying to be responsive to the request, Huntsman Corporation was initially founded as the Huntsman***

Container Corporation in 1970, which pioneered in the field of plastics packaging. In 1994, Huntsman Corporation was formed when Huntsman acquired the worldwide operations of Texaco Chemical Company. In 1996, all Huntsman operating entities were brought under a single management company known as Huntsman Corporation. Through a series of at least 30 significant business and facility acquisitions and joint ventures (with some divestitures), Huntsman has grown today to be a major global manufacturer and marketer of differentiated chemical products. The Company went public as the Huntsman Corporation on the New York Stock Exchange in February 2005. Four decades after beginning, Huntsman Corporation employs approximately 12,000 associates and operates more than 75 manufacturing and research and development facilities in over 30 countries across five business divisions. With headquarters in The Woodlands, Texas and executive offices in Salt Lake City, Utah, the Company had 2013 revenues of over $11 billion.

b. Describe your Company's operations from 1974 to the present and identify all chemicals used or produced as a result of your Company's operations during that period, including any chemical substances used to clean equipment or machinery and the nature and chemical constituents of all waste streams and their disposition.

Response: ***Huntsman objects to this request as overly broad, unduly burdensome, and not calculated to lead to the discovery of useful information. Without waiving this objection and trying to be responsive to the request, Huntsman's five business divisions (with product application descriptions) are:***

Advanced Materials is a supplier of synthetic and formulated polymer systems which are used in markets such as adhesives and inks, aerospace, automotive, coatings, construction, electronics, medical, marine, sports equipment, and wind power generation.

Polyurethanes manufactures methyl diisocyante-based polyurethanes used in an extensive range of applications and market sectors, including insulation products for housing and commercial properties, comfort products for automotive seating, furniture, bedding, and footwear, plus adhesive products, coatings, and elastomers used in various consumer and industrial applications.

Performance Products manufactures products worldwide and comprises three business groups: specialties, intermediates, and maleic anhydride. Specialties include the production of amines, carbonates and certain

specialty surfactants, plus linear alkyl benzene and ethanolamines used in detergent and consumer products applications. Intermediate products are used to manufacture shampoos and conditioners, shaving creams, fabric softeners and laundry detergents, as well as wrinkle-resistant clothing. Maleic anhydride is a highly versatile chemical intermediate and its largest single application is in the manufacturing of unsaturated polyester resins for the housing, automotive, and marine industries.

Pigments is a manufacturer of titanium dioxide pigments, which primarily deliver whiteness, brightness, and opacity to a vast range of products from coatings and polymers to cosmetics and food.

Textile Effects creates, markets and manufactures a broad range of chemical and dye products to the textiles and related industries.

Regarding the identification of all chemicals used or produced, providing such a global list in this response is impractical considering that the most recent estimate of the total number of unique product/intermediate (Material) Safety Data Sheets managed by Huntsman (in the primary language of the region), completed in 2011, was approximately 32,000 (approximately 6,500 in North America alone). (Note that U.S. chemical manufacturers are required to periodically report on their manufacture (substance/volume) under the chemical data reporting rule (CDR, formerly known as Inventory Update Rule / IUR.)) The public has access to non-Confidential Business Information data from this rule on the EPA website- http://epa.gov/cdr/.

Regarding the nature and chemical constituents of all waste streams and their disposition, providing such a global list in this response is impractical considering that the five business divisions described above disposed of the following approximate volumes of waste (hazardous and non-hazardous combined) in 2013:

Huntsman Business Division	Waste Disposed in 2013 (tonnes)
Advanced Materials	11,351
Polyurethanes	111,779
Performance Products	367,920
Pigments	570,354
Textile Effects	21,120
HUNTSMAN TOTAL	1,082,524

Company's Relationship to Superior Barrel and Drum ("SBD")

3. a. State whether the Company or any Company facility conducted any business transactions with SBD for the disposal, treatment, or storage of any barrels, drums, or other containers (hereinafter collectively referred to as "Containers").

Response: ***After conducting the due diligence described in the preamble, no information was located by Huntsman that describes or suggests any business relationship or transactions by Huntsman with SBD for the disposal, treatment, or storage of any barrels, drums, or other containers. The only allegation of a "connection" between Huntsman and SBD are the two photographs of a single drum with a Huntsman label and one Kemron "Drum Inventory Log" (collectively, "the documentation") provided to Huntsman by the EPA in a June 24, 2014 e-mail.***

b. If so, identify each such facility and describe the relationship between the Company and SBD, including the nature of services rendered or products sold to the Company;

Response: ***Huntsman's due diligence did not identify any information that describes or suggests any relationship between Huntsman and SBD, including the nature of services rendered or products sold to Huntsman. The only allegation of a "connection" between Huntsman and SBD is the documentation provided to Huntsman by the EPA. Huntsman's evaluation of the documentation has determined that the drum originated at Rubicon's Geismar, Louisiana facility at some undeterminable time in the past. No information has been identified to explain how the drum became located at SBD. Moreover, the description of the drum's contents ("100% purple liquid") is inconsistent with the original drummed product, Rubinate® 1225.***

c. Provide copies of any contracts or agreements between the Company and SBD;

Response: ***Huntsman's due diligence did not identify any information that would describe or suggest any contracts or agreements between Huntsman and SBD.***

4. a. For each facility identified in Question 3, state the nature of the operations conducted at the facility, including the time period in which the facility operated;

Response: ***Huntsman's due diligence did not identify any information that describes or suggests any direct or indirect involvement of any***

Huntsman facility with SBD. The only allegation of a "connection" between Huntsman and SBD is the documentation provided to Huntsman by the EPA. Huntsman's evaluation of the documentation has determined that the drum originated at Rubicon's Geismar, Louisiana facility at some undeterminable time in the past but that the current drum contents are inconsistent with the original drummed product, Rubinate® 1225.

b. State the name, address, and current RCRA Identification Number of each facility;

Response: ***Huntsman's due diligence did not identify any information that describes or suggests any direct or indirect involvement of any Huntsman facility with SBD. Huntsman's evaluation of the documentation has determined that the drum originated at Rubicon's Geismar, Louisiana facility at some undeterminable time in the past but that the current drum contents are inconsistent with the original drummed product, Rubinate® 1225.***

5. For each transaction between the Company and SBD, provide the following information, which may be provided in tabular format,

Response: ***Huntsman's due diligence did not identify any information regarding, describing, or suggesting any transaction between Huntsman and SBD.***

a. Identify the specific dates of each transaction and the facility involved with each transaction. Where an exact date cannot be provided for a transaction, provide an approximation by month and year;

Response: ***Huntsman's due diligence did not identify any information regarding, describing, or suggesting any transaction between Huntsman and SBD.***

b. Identify the number of Containers that were the subject of each such transaction;

Response: ***Huntsman's due diligence did not identify any information regarding, describing, or suggesting any transaction between Huntsman and SBD. Huntsman's evaluation of the documentation has determined that the drum originated at Rubicon's Geismar, Louisiana facility at some undeterminable time in the past, but that the current drum contents as described by Kemron Environmental Services are inconsistent with the original drummed product, Rubinate® 1225. No information has been identified to explain how the drum became located at SBD.***

c. Generically describe each Container that was the subject of each such transaction, including the Container capacity and type (example: 55-gallon closed head steel drums, etc.);

Response: ***Huntsman's due diligence did not identify any information regarding, describing, or suggesting any transaction between Huntsman and SBD. Huntsman's evaluation of the documentation has determined that the drum originated at Rubicon's Geismar, Louisiana facility at some undeterminable time in the past, but that the current drum contents are inconsistent with the original drummed product, Rubinate® 1225. No information has been identified to explain how the drum became located at SBD. According to the documentation provided by EPA, the drum was a 55-gallon, ringtop steel drum with a Huntsman Rubinate label.***

d. Identify the intended purpose and nature of each such transaction (example: Company products sold to SBD, Company waste disposed of by SBD, Company products purchased from SBD, Services rendered to or from the Company to or from SBD, etc.)

Response: ***Huntsman's due diligence did not identify any information regarding, describing, or suggesting any transaction between Huntsman and SBD.***

e. State whether each Container that was the subject of the transaction contained any substance(s) at the time of the transaction. As to each Container that contained any substance:

Response: ***Huntsman's due diligence did not identify any information regarding, describing, or suggesting any transaction between Huntsman and SBD. Huntsman's evaluation of the documentation has determined that the drum originated at Rubicon's Geismar, Louisiana facility at some undeterminable time in the past but that the current drum contents are inconsistent with the original drummed product, Rubinate® 1225. No information has been identified to explain how the drum became located at SBD.***

(1) Identify each such substance, including its specific chemical constituent(s), physical state, quantity by volume and weight, and other characteristics; and

Response: ***Huntsman's due diligence determined that "Label No. 004016" on the drum in question identifies its original contents as Rubinate® 1225, which is described as a solid (when frozen for the preferred shipping method), but is a liquid when manufactured. If kept at ambient***

temperatures, Rubinate® 1225 will begin to crystalize into a solid. Rubinate® 1225 is described by knowledgeable Rubicon personnel as clear or cloudy white in color. Because the "Drum Inventory Log" included in the EPA provided documentation describes the drum's contents as a purple liquid, Huntsman cannot provide a response regarding the identity of the drum's current contents, including but not limited to its specific chemical constituent(s), physical state, quantity by volume and weight, and other characteristics. It is Huntsman's opinion that the material in the drum in question is either (1) non-Huntsman material that was placed in a Huntsman drum, or (2) potentially Rubinate® 1225 contaminated with non-Huntsman material placed in the drum by another party.

(2) Provide all written analyses that may have been generated for each such substance or which may be in the custody or control of the Company and all material safety data sheets, if any, relating to each such substance;

Response: ***Huntsman's due diligence determined that "Label No. 004016" on the drum in question identifies its original contents as Rubinate® 1225, which is described as a solid (when frozen for the preferred shipping method), but is a liquid when manufactured. If kept at ambient temperatures, Rubinate® 1225 will eventually crystalize into a solid. Rubinate® 1225 is described by knowledgeable Rubicon personnel as clear or cloudy white in color. Because the "Drum Inventory Log" included in the EPA provided documentation describes the drum's contents as a purple liquid, it is Huntsman's opinion that the material in the drum in question is either (1) non-Huntsman material that was placed in a Huntsman drum or (2) potentially Rubinate® 1225 contaminated with non-Huntsman material placed in the drum by another party. Consequently, Huntsman cannot provide a response regarding any written analyses that may have been generated for the contents of the drum in question. Huntsman has no such information in its custody or control, nor does it possess any material safety data sheets for the contents of the SBD-located drum in question.***

6. Provide copies of all documents relating in any way to each transaction, including copies of delivery receipts, invoices, or payment devices.

Response: ***Huntsman's due diligence did not identify any information relating to or suggesting in any way any transaction between Huntsman and SBD, including copies of delivery receipts, invoices, or payment devices.***

7. Identify all persons who might have knowledge of the transaction or who had any responsibility regarding the transaction.

Response: ***Huntsman's due diligence did not identify any information identifying any person or persons who might have any knowledge of any transaction, or who had any responsibility regarding any transaction, between Huntsman and SBD.***

8. If you contend that any Container identified in response to Question 5, above, did not contain any substance at the time of the transaction, state whether such Container had previously been used by the Company to contain any substance, and if so:

Response: ***Huntsman's due diligence included a review of the documentation provided by EPA on June 24, 2014 in response to a June 18, 2014 telephone request by Huntsman. EPA provided two photographs of a single drum and a one-page copy of a "Drum Inventory Log" prepared by Kemron Environmental Services. One of the photographs shows a label displaying the Huntsman corporate logo and the chemical trade name "Rubinate" (a trademarked Huntsman product). Subsequent due diligence on the other piece of label information ("Label No. 004016") identified a specific product, Rubinate® 1225, described as clear or cloudy white in color. The Kemron Environmental Services "Drum Inventory log" provided in the documentation described the contents of the SBD-located drum in question as being 100% "purple liquid." This suggests that the contents of the Huntsman-labeled drum in question at the SBD site was not the original drum contents (i.e., Huntsman Rubinate® 1225) but rather (1) an unknown material placed in a Huntsman drum or (2) the Huntsman Rubinate® 1225 product contaminated with other material by another party.***

a. Identify all substances previously contained within such Container, including its specific chemical constituent(s), physical state, and other characteristic(s); and

Response: ***Huntsman's due diligence determined that "Label No. 004016" on the drum in question identifies its original contents as Rubinate® 1225. (See response to Question 8.b. below.)***

b. Provide as to such substance(s), all written analyses that may have been generated for each such substance or which may be in the custody or control of the Company and all material safety data sheets, if any, relating to each such substance;

Response: ***A Material Safety Data Sheet for the Huntsman Rubinate® 1225 product is provided as Enclosure 3.***

9. Describe in detail any treatment of any Container that may have been performed by or on behalf of the Company prior to the time that the Container was transferred from the Company, including any process or procedure by which the Container was emptied or cleaned.

Response: ***Huntsman's due diligence did not identify any information regarding, describing, or suggesting any transaction between Huntsman and SBD, including any information regarding, describing, or suggesting any treatment of any Container. The only allegation of a "connection" between Huntsman and SBD is the documentation provided to Huntsman by the EPA. Huntsman's evaluation of the documentation has determined that the drum originated at Rubicon's Geismar, Louisiana facility at some undeterminable time in the past but that the current drum contents are inconsistent with the original drummed product, Rubinate® 1225. No information has been identified to explain how the drum became located at SBD.***

10. If you sent any Container by means of any third party transporter, identify each such transporter, including the name and address of such transporter, and identify in which of the transactions such transporter acted.

Response: ***Huntsman's due diligence did not identify any information regarding, describing, or suggesting any transaction between Huntsman and SBD, including any information regarding, describing, or suggesting use of any third party transporter. No information has been identified to explain how the drum became located at SBD.***

11. Identify each person consulted in responding to these questions and all questions on which he or she was consulted.

Response: ***The following personnel (name, company affiliation, job title, and location) were consulted in preparing the responses to these questions:***

Name: ***Sheri Blystone (Huntsman)***
Job Title: ***Manager Sr EH&S Product AMERS, The Woodlands, Texas***
Consultation: ***Question(s) 2.b.***

Name: ***Maryann DeMaria (Huntsman)***
Job Title: ***Executive Assistant, The Woodlands, Texas***
Consultation: ***Question(s) 1.f., 3, 4, 5.a.-5.d., 6, 7, 9, 10, 12, 13***

Name: ***Michelle B. Eaglin (Rubicon LLC)***
Job Title: ***Environmental Manager (EHS), Geismar, Louisiana***
Consultation: ***Question(s) 1.f., 3, 4, 5.a.-5.d., 6, 7, 9, 10, 12, 13***

Name: ***Ronald Wm. Keichline (Huntsman)***
Job Title: ***Environmental Coordinator Global, The Woodlands, Texas***
Consultation: ***Question(s) 2.b.***

Name: ***David Kobe (Rubicon LLC)***
Job Title: ***Supply and Logistics (Supply Chain), Geismar, Louisiana***
Consultation: ***General due diligence***

Name: ***Michelle M. Koenig (Huntsman)***
Job Title: ***Polyurethanes - Senior Secretary, The Woodlands, Texas***
Consultation: ***Question(s) 1.f., 3, 4, 5.a.-5.d., 6, 7, 9, 10, 12, 13***

Name: ***Thesia Krajewski (Rubicon LLC)***
Job Title: ***Sr. Environmental Engineer, Geismar, Louisiana***
Consultation: ***Question(s) 1.f., 3, 4, 5.a.-5.d., 6, 7, 9, 10, 12, 13***

Name: ***Elizabeth McDaniel (Huntsman)***
Job Title: ***Vice President, EHS, The Woodlands, Texas***
Consultation: ***General due diligence***

Name: ***Rory S. Mumphrey (Rubicon LLC)***
Job Title: ***Polyurethanes - Package Logistics Team Lead, Geismar, Louisiana***
Consultation: ***Question(s) 5.e.(1), 5.e.(2), 8.a.***

Name: ***Donna M. Newhouse (Huntsman)***
Job Title: ***Performance Products - Team Leader, The Woodlands, Texas***
Consultation: ***Question(s) 5.e.(1), 5.e.(2), 8.a.***

Name: ***David Nutt (Huntsman)***
Job Title: ***Director of Legal Services, EHS, The Woodlands, Texas***
Consultation: ***Question(s) 1-13***

Name: ***Torri Slaughter (Huntsman)***
Job Title: ***Paralegal Litigation, Salt Lake City, Utah***
Consultation: ***Question(s) 1.a.-1.e.***

Name: ***Lon F. Tullos (Huntsman)***
Job Title: ***Manager - EHS Financial and Legacy Matters, The Woodlands, Texas***
Consultation: ***Question(s) 1-13***

Name: ***Barry Wilcoxon (Rubicon LLC)***
Job Title: ***Quality Assurance Manager, Geismar, Louisiana***
Consultation: ***Question(s) 5.e.(1), 5.e.(2), 8.a.***

12. Identify any other person or entity (e.q, individual, company, partnership, etc.) having knowledge of facts relating to the questions which are the subject of this inquiry. For each such person that you identify, provide the name, address, and telephone number of that person, and the basis of your belief that he or she has such knowledge. For past and present employees, include their job title(s) and a description of the responsibilities.

Response: ***Huntsman's due diligence did not identify any information regarding, describing, or suggesting the identity of any other person or entity (e.q, individual, company, partnership, etc.) having knowledge of facts relating to the questions which are the subject of this inquiry.***

13. Supply any additional information or documents that may be relevant or useful to identify other sources who disposed of or transported Containers to the Site.

Response: ***Huntsman's due diligence did not identify any information regarding, describing, or suggesting anything relevant or useful to identify other sources who disposed of or transported Containers to the Site.***

CERTIFICATION OF ANSWERS TO REQUEST FOR INFORMATION
Superior Barrel and Drum Site, Elk, Gloucester County, New Jersey

State of Texas:

County of Montgomery:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document (response to EPA Request for Information) and all documents submitted herewith, and that based on my inquiry of those individuals immediately responsible for obtaining the information, believe that the submitted information is true, accurate, and complete, and that all documents submitted herewith are complete and authentic unless otherwise indicated, I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I am also aware that I am under a continuing obligation to supplement my response to EPA's Request for Information if any additional information relevant to the mailers addressed in EPA's Request for Information or my response thereto should become known or available to me.

Lon F. Tullos
NAME (print or type)

Manager - EHS Financial and Legacy Matters
TITLE (print or type)

SIGNATURE

Sworn to before me this 8th
day of July 2014

Maryann DeMaria
Notary Public

MARYANN DEMARIA
Notary Public, State of Texas
My Commission Expires
November 20, 2015

Enclosure 1

Huntsman International LLC

Basics

Entity Type	Limited Liability Company
State File #	3020381
Jurisdiction	Delaware
Formation Date	03/23/1999
EIN	87-0630358
Status	Active
Status Effective From	
Status Notes	
Date Last Edited	05/02/2014

Addresses

Address Type	Full Address	City	State/Province	Zip/Post Code	Country
Business	500 Huntsman Way, Salt Lake City, Salt Lake County, UT, 84108, United States	Salt Lake City	Utah	84108	United States
Facility	5015 Barnard Mill RD, Ringwood, McHenry, IL, United States	Ringwood	Illinois		United States
Facility	2190 Executive Hills Blvd, Auburn Hills, Oakland, MI, 48362, United States	Auburn Hills	Michigan	48362	United States
Facility	2701 Spur 136., Port Neches, Jefferson, TX, 77651, United States	Port Neches	Texas	77651	United States

Signing Authority

Signer	Signer Title	Signing Authority Notes	Signer Status
		All officers have signing authority. Questions regarding whether a certain officer is appropriate in a given case should be directed to the Legal Department.	

Managers

Appointment Type	Appointed Entity	Date First Elected
Manager	David M. Stryker	07/01/2013
Manager	Jon Meade Huntsman	04/12/1999
Manager	Jon Ross Kimo Esplin	05/09/2005
Manager	Peter Riley Huntsman	04/12/1999

Officers

Appointment Type	Appointed Entity	Date First Elected
Assistant Secretary	Rachel K. Muir	07/01/2013
Assistant Secretary	Troy Maurice Keller	08/15/2005
Assistant Treasurer	Brandon M. Gray	06/25/2007
Division President, Advanced Materials	James Haight Huntsman	07/01/2011
Division President, Performance Products	Stewart Alan Monteith	02/03/2011
Division President, Pigments	Simon J. Turner	01/10/2010
Division President, Polyurethanes and Chief Executive Officer, Asia-Pacific	Anthony Paul Hankins	03/11/2004
Division President, Textile Effects	Paul Graham Hulme	12/30/2004
Executive Chairman	Jon Meade Huntsman	01/10/2010
Executive Vice President and Chief Financial Officer	Jon Ross Kimo Esplin	06/09/1999
Executive Vice President, General Counsel, Corporate Compliance Officer and Secretary	David M. Stryker	07/01/2013
President and Chief Executive Officer	Peter Riley Huntsman	08/01/2000
Senior Vice President and Deputy General Counsel	Russell Robert Stolle	01/10/2010
Senior Vice President, Environmental, Health and Safety and Manufacturing Excellence	Ronald William Gerrard	08/06/2009
Senior Vice President, Global Human Resources	Robert Wade Rogers	12/18/2006
Senior Vice President, Purchasing	Brian V. Ridd	02/07/2002
Vice President and Chief Information Officer	Maria Csiba-Womersley	12/13/2007
Vice President and Controller	Randy W. Wright	02/20/2012
Vice President, Accounting Shared Services and Controls	Steven C. Jorgensen	02/20/2012
Vice President, Internal Audit	Pierre Poukens	02/20/2012
Vice President, Investor Relations	Kurt D. Ogden	02/05/2009
Vice President, Planning and Treasurer	John Robert Heskett	12/07/2009
Vice President, Tax	Kevin Clyde Hardman	12/27/2002

Business Activities

Primary Activity	Description
Manufacture and sale of chemicals	Five segments: polyurethanes, performance products, advanced materials, textile effects and pigments

Huntsman International LLC

Capital

Short Description	Currency	Par Value	Total Authorized	Value Authorized	Amount Issued	Value Issued	Voting
LLC Interest	(United States) Dollar	0.00	2,727.73	0.00	0.00	0.00	Yes

Stockholders

0 Record(s) Returned

Parents

Parent	% Parent Interest Held	Date Acquired
Alta One Inc.	19.82	11/05/2008
Huntsman Corporation	80.18	11/05/2008

Subsidiaries

Subsidiary	% Parent Interest Held
Airstar Corporation	100.00
Huntsman (Holdings) Netherlands B.V.	89.77
Huntsman (Thailand) Limited	50.98
Huntsman Advanced Materials LLC	100.00
Huntsman Australia Holdings LLC	100.00
Huntsman Australia LLC	100.00
Huntsman Chemical Company of Canada, Inc. [HISTORICAL]	100.00
Huntsman Chemical Purchasing LLC	100.00
Huntsman Distribution Corporation	100.00
Huntsman Enterprises LLC	100.00
Huntsman Ethyleneamines LLC	100.00
Huntsman Fuels GP LLC	100.00
Huntsman Fuels Partners LP	99.00
Huntsman International Financial LLC	100.00
Huntsman International Fuels LLC	100.00
Huntsman International Investments LLC	100.00
Huntsman Petrochemical LLC	100.00
Huntsman Pigments LLC	100.00
Huntsman Polyurethane Fund I, L.L.C.	100.00

Subsidiaries(continued)

Subsidiary	% Parent Interest Held
Huntsman Polyurethane Fund II, L.L.C.	100.00
Huntsman Polyurethane Fund III, L.L.C.	100.00
Huntsman Polyurethane Fund IV, L.L.C.	100.00
Huntsman Polyurethane Venture I, L.L.C.	100.00
Huntsman Polyurethane Venture II, L.L.C.	100.00
Huntsman Polyurethane Venture III, L.L.C.	100.00
Huntsman Polyurethane Venture IV, L.L.C.	100.00
Huntsman Procurement LLC	100.00
Huntsman Propylene Oxide LLC	100.00
Huntsman Receivables Finance II LLC	100.00
Huntsman Receivables Finance LLC	100.00
Huntsman Styrenics Investment Holdings, L.L.C.	100.00
International Risk Insurance Company	100.00
Rubicon LLC	50.00
Tioxide Americas (Holdings) LLC	100.00

Name History

Name	Effective From	Effective To
Huntsman International LLC		
Huntsman Imperial Chemicals LLC	03/23/1999	04/12/1999
Huntsman ICI Chemicals LLC	04/12/1999	12/08/2000

Conversion

Entity Type	Effective From
Limited Liability Company	

Merger History

Date of Merger	Merging Entity	Jurisdiction	EIN
08/16/2005	Huntsman LLC [HISTORICAL]	Utah	87-0533091
09/02/2009	Huntsman Chemical Company LLC [HISTORICAL]	Utah	68-0518488
09/17/2013	Polymer Materials LLC [HISTORICAL]	Utah	87-0432897

Enclosure 2

Rubicon LLC

Basics

Entity Type	Limited Liability Company
State File #	5549386-0160
Jurisdiction	Utah
Formation Date	12/23/2003
EIN	72-0927730
Status	Active - Joint Venture
Status Effective From	
Status Notes	Formerly a Louisiana corporation (polyurethanes manufacturing [nitrobenzene and aniline]0, Rubicon is a JV with Chemtura Corporation, a Delaware corporation (formerly CK/Witco [formerly Uniroyal, Inc.]). Other products made by Rubicon include MDI, TDI and polyols. Huntsman International owns 100% of the MDI, TDI and polyol facilities and 50% of the nitrobenzene and aniline facilities (80% of aniline is used as a raw material for MDI manufacture). Hunsman International LLC has rights to about 73% of aniline and nitrobenzene capacity under the JV arrangement. Rubicon manages and operates all facilities. Uniroyal Chemical Company was the first JV partner,.; It became Crompton Manufacturing Inc. and in July 2005, merged with Great Lakes Chemical Corporation to form Chemtura Corporation
Date Last Edited	04/08/2014

Addresses

Address Type	Full Address	City	State/Province	Zip/Post Code	Country
Chemtura Corporation	199 Benson Road, Middlebury, New Haven, CT, 5479, United States	Middlebury	Connecticut	5479	United States
Corporate	500 Huntsman Way., Salt Lake City, Salt Lake, UT, 84108, United States	Salt Lake City	Utah	84108	United States
Manufacturing	PO Box 517, 9156 Highway 75, Geismar, Ascension, LA, 70734, United States	Geismar	Louisiana	70734	United States
Registered Office	500 Huntsman Way., Salt Lake City, Salt Lake, UT, 84108, United States	Salt Lake City	Utah	84108	United States

Signing Authority

Signer	Signer Title	Signing Authority Notes	Signer Status
		All officers have signing authority. Questions regarding whether a certain officer is appropriate in a given case should be directed to the Legal Department.	

Managers

Appointment Type	Appointed Entity	Date First Elected
Class A Manager	E. Werner	
Class A Manager	Gregory Oehley	04/09/2013
Class A Manager	W. Wallace	04/09/2013
Class B Manager	Derek J. Crofton	

Managers (continued)

Appointment Type	Appointed Entity	Date First Elected
Class B Manager	Eric Phillips	02/28/2006
Class B Manager	Nicolas Gonzales-Nagel	04/09/2013

Officers

Appointment Type	Appointed Entity	Date First Elected
Assistant Secretary	David Kocian	
Assistant Secretary	Maria Thompson	04/09/2013
Assistant Treasurer	B. Moreau	04/09/2013
Chairman of the Board	E. Werner	04/09/2013
General Manager	Mark K. Dearman	
President	Eric Phillips	
Secretary	Gregory Oehley	03/21/2013
Treasurer	Nicolas Gonzales-Nagel	04/09/2013

Business Activities

Primary Activity	Description
Polyurethanes	Polyurethane manufacturing

Capital

Short Description	Currency	Par Value	Total Authorized	Value Authorized	Amount Issued	Value Issued	Voting
Common	(United States) Dollar	1.00	0.00	0.00	800,000.00	0.00	Yes
Common	(United States) Dollar	1.00	0.00	0.00	0.00	0.00	Yes

Stockholders

Registered Holder	Security	Total Holding	% of Issued Held
Chemtura Corporation	Common	400,000.00	50.00
Huntsman International LLC	Common	400,000.00	50.00

Rubicon LLC

Parents

Parent	% Parent Interest Held	Date Acquired
Chemtura Corporation	50.00	06/30/1999
Huntsman International LLC	50.00	06/30/1999

Subsidiaries

Subsidiary	% Parent Interest Held

Name History

Name	Effective From	Effective To
Rubicon LLC		
Rubicon Inc.	12/24/1981	12/23/2003

Conversion

Entity Type	Effective From
Limited Liability Company	

Merger History

Date of Merger	Merging Entity	Jurisdiction	EIN

Enclosure 3

Material Safety Data Sheet

HUNTSMAN
Enriching lives through innovation

RUBINATE® 1225

1 . Product and company identification

Product name : **RUBINATE® 1225**
Material uses : Component of a Polyurethane System
(M)SDS # : 00004016
Validation date : 11/15/2013.
Supplier/Manufacturer : Huntsman Polyurethanes (an international business unit of Huntsman International LLC.)

P.O. Box 4980
The Woodlands, TX 77387

For Polyurethanes product information/assistance:
The Woodlands: (800) 257-5547
Auburn Hills: (800) 553-8624
Canada: (905) 678-9150

E-Mail: MSDS@huntsman.com

In case of emergency : Chemtrec: (800) 424-9300 or (703) 527-3887

2 . Hazards identification

Physical state : Solid
Odor : slightly musty
OSHA/HCS status : This material is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview : WARNING!

Harmful by inhalation. Irritating to eyes and respiratory system. May cause sensitization by inhalation and skin contact. This product is a respiratory irritant and potential respiratory sensitiser: repeated inhalation of vapour or aerosol at levels above the occupational exposure limit could cause respiratory sensitisation. A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitised persons. The onset of the respiratory symptoms may be delayed for several hours after exposure.
Reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures.

Do not breathe vapor or mist. Do not get on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

See toxicological information (Section 11)

GENERAL INFORMATION : Read the entire MSDS for a more thorough evaluation of the hazards.

3 . Composition/information on ingredients

Name	CAS number	%
Diphenylmethane 4,4'-diisocyanate	101-68-8	60 - 100

4 . First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : After contact with skin, wash immediately with plenty of warm soapy water. Get medical attention if irritation develops. Wash clothing before reuse. Clean shoes thoroughly before reuse. An MDI study has demonstrated that a polyglycol-based skin cleanser (such as D-TamTM, PEG-400) or corn oil may be more effective than soap and water.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Notes to physician : No specific treatment. Treat symptomatically. Call medical doctor or poison control center immediately if large quantities have been ingested.

5 . Fire-fighting measures

Flash point : Closed cup: >110°C (>230°F)

Flammable limits : Not explosive

Hazardous thermal decomposition products : Combustion products may include: carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons and HCN.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : No specific hazard.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. PVC boots, gloves, safety helmet and protective clothing should be worn. PVC boots, gloves, safety helmet and protective clothing should be worn.

Special remarks on explosion hazards : Due to reaction with water producing CO2-gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Containers may burst if overheated.

6 . Accidental release measures

Personal precautions : Immediately contact emergency personnel. Evacuate the area. Keep upwind to avoid inhalation of vapours. Clean-up should only be performed by trained personnel. People dealing with major spillages should wear full protective clothing including respiratory protection. Use suitable protective equipment (section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods for cleaning up : Contain and absorb large spillages onto an inert, non-flammable adsorbent carrier (such as earth or sand). Shovel into open-top drums or plastic bags for further decontamination, if necessary. Wash the spillage area clean with liquid decontaminant. Test atmosphere for MDI. Neutralize small spillages with decontaminant. Remove and properly dispose of residues. (See Section 13 for disposal considerations.) Notify applicable government authorities if release is reportable. The CERCLA RQ for 4,4-MDI is 5,000 lbs (see CERCLA in Section 15).

7 . Handling and storage

Handling : Avoid personal contact with the product or reaction mixture. Use only with adequate ventilation to ensure that the occupational exposure limit is not exceeded. The efficiency of the ventilation system must be monitored regularly because of the possibility of blockage. Avoid breathing aerosols, mists and vapors. (See Section 8--Exposure Control for details.) Keep stocks of decontaminant readily available.

Storage : Keep container in a cool, well-ventilated area. Keep container tightly closed. Keep away from moisture. Due to reaction with water producing CO2-gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed. Do not reseal contaminated containers. Uncontaminated containers, free of moisture, may be resealed only after placing under a nitrogen blanket. Do not store in containers made of copper, copper alloys or galvanized surfaces.

8 . Exposure controls/personal protection

Ingredient	Exposure limits
Diphenylmethane 4,4'-diisocyanate	**ACGIH TLV (United States, 3/2012).** TWA: 0.005 ppm 8 hours. **OSHA PEL (United States, 6/2010).** CEIL: 0.02 ppm CEIL: 0.2 mg/m³

Recommended monitoring procedures : Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

Engineering measures : Use local exhaust ventilation to maintain airborne concentrations below the TLV. Suitable respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it. For guidance on engineering control measures refer to publications such as the ACGIH current edition of 'Industrial Ventilation, a manual of Recommended Practice.'

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : When the product is sprayed or heated without adequate ventilation, an approved MSHA/NIOSH positive-pressure, supplied-air respirator may be required. Air purifying respirators equipped with organic vapor cartridges and a HEPA (P100) particulate filter may be used under certain conditions when a cartridge change-out schedule has been developed in accordance with the OSHA respiratory protection standard (29 C.F.R. 1910.134). When the product is sprayed or heated without adequate ventilation, an approved MSHA/NIOSH positive-pressure, supplied-air respirator may be required. Air purifying respirators equipped with organic vapor cartridges and a HEPA (P100) particulate filter may be used under certain conditions when a cartridge change-out schedule has been developed in accordance with the OSHA respiratory protection standard (29 C.F.R. 1910.134).

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Eyes : Chemical safety goggles. If there is a potential for splashing, use a full face shield.

8 . Exposure controls/personal protection

Skin : The following protective materials are recommended: Gloves - neoprene, nitrile rubber, butyl rubber. Thin latex disposable gloves should be avoided for repeated or long term use. Protective clothing should be selected and used in accordance with 'Guidelines for the Selection of Chemical Protective Clothing' published by ACGIH.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Other protection : Consult your supervisor or S.O.P. for special handling instructions.

9 . Physical and chemical properties

Appearance

Physical state : Solid

Color : Not available.

Odor : slightly musty

pH : Not applicable.

Boiling/condensation point : >300°C decomposes

Melting/freezing point : Not available.

Flash point : Closed cup: >110°C (>230°F)

Flammable limits : Not explosive

Auto-ignition temperature : >600°C

Explosive properties : Non-explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and shocks and mechanical impacts.

Vapor pressure : Not available.

Specific gravity : Not available.

Partition coefficient: n-octanol/water (log Kow) : Not applicable. Reacts with water and octanol.

Density : Not available.

Vapor density : 8.5

Evaporation rate (butyl acetate = 1) : Not available.

10 . Stability and reactivity

Chemical stability : Stable at room temperature. Reaction with water (moisture) produces CO2-gas. Exothermic reaction with materials containing active hydrogen groups. The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of the reaction partners is good or is supported by stirring or by the presence of solvents. MDI is insoluble with, and heavier than water and sinks to the bottom but reacts slowly at the interface. A solid water-insoluble layer of polyurea is formed at the interface by liberating carbon dioxide gas.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Hazardous polymerization : Polymerization may occur at elevated temperatures in the presence of alkalies, tertiary amines and metal compounds.

Conditions to avoid : Avoid high temperatures.

Materials to avoid : Water, alcohols, amines, bases, and acids.

Hazardous decomposition products : carbon monoxide, carbon dioxide, nitrogen oxides, hydrocarbons and HCN.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Test	Endpoint	Species	Result
Diphenylmethane 4,4'-diisocyanate	OECD 403 Acute Inhalation Toxicity	LC50 Inhalation Dusts and mists	Rat - Male, Female	0.49 mg/l
	OECD 402 Acute Dermal Toxicity	LD50 Dermal	Rabbit - Male, Female	>9400 mg/kg
	OECD 401 Acute Oral Toxicity	LD50 Oral	Rat - Male	>10000 mg/kg

Conclusion/ Summary : Diphenylmethane 4,4'-diisocyanate — Irritating to respiratory system.

Irritation/Corrosion

Product/ingredient name	Test	Species	Result
Diphenylmethane 4,4'-diisocyanate	OECD 404 Acute Dermal Irritation/ Corrosion	Rabbit	Skin - Irritant
	OECD 405 Acute Eye Irritation/ Corrosion	Rabbit	Eyes - Non-irritant.

Conclusion/ Summary

Skin : Diphenylmethane 4,4'-diisocyanate — Irritating to skin.

Eyes : Diphenylmethane 4,4'-diisocyanate — Based on the human occupational exposure data, this substance is considered as irritating to eyes.

Respiratory : Diphenylmethane 4,4'-diisocyanate — No additional information.

Sensitizer

Product/ingredient name	Test	Route of exposure	Species	Result
Diphenylmethane 4,4'-diisocyanate	OECD 429 Skin Sensitization: Local Lymph Node Assay	skin	Mouse	Sensitizing
	OECD 406 Skin Sensitization	skin	Guinea pig	Not sensitizing
	No official guidelines	Respiratory	Guinea pig	Sensitizing

Mutagenicity

Conclusion/ Summary : Diphenylmethane 4,4'-diisocyanate — No mutagenic effect.

Carcinogenicity

11 . Toxicological information

Product/ingredient name	Test	Species	Dose	Exposure	Result/Result type
Diphenylmethane 4,4'-diisocyanate	OECD 453 Combined Chronic Toxicity/ Carcinogenicity Studies	Rat - Male, Female	1 mg/m³	2 years; 5 days per week	Positive - Inhalation - NOAEL

Carcinogenic class

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Diphenylmethane 4,4'-diisocyanate	-	3	-	-	-	-

Reproductive toxicity

Conclusion/ Summary : Diphenylmethane 4,4'-diisocyanate No known significant effects or critical hazards.

Teratogenicity

Product/ingredient name	Test	Species	Result/Result type
Diphenylmethane 4,4'-diisocyanate	OECD 414 Prenatal Developmental Toxicity Study	Rat - Female	Negative - Inhalation

Conclusion/ Summary : Diphenylmethane 4,4'-diisocyanate No known significant effects or critical hazards.

Potential acute health effects

Inhalation : May cause sensitization by inhalation.

Ingestion : Low oral toxicity. Ingestion may cause irritation of the gastrointestinal tract.

Skin contact : Irritating to skin. May cause sensitisation by skin contact

Eye contact : Irritating to eyes.

Potential chronic health effects

General : Contains material that can cause target organ damage. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Target organs : Contains material which causes damage to the following organs: upper respiratory tract.

Carcinogenicity : Rats have been exposed for two years to a respirable aerosol of polymeric MDI which resulted in chronic pulmonary irritation at high concentrations. Only at the top level (6 mg/m3), there was a significant incidence of a benign tumour of the lung (adenoma) and one malignant tumour (adenocarcinoma). There were no lung tumours at 1 mg/m3 and no effects at 0.2 mg/m3. Overall, the tumour incidence, both benign and malignant, and the number of animals with the tumours were not different from controls. The increased incidence of lung tumours is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung, which occurred throughout the study. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumour formation will occur.

Mutagenicity : There is no substantial evidence of mutagenic potential.

11 . Toxicological information

Teratogenicity : No birth defects were seen in two independant animal (rat) studies. Fetotoxicity was observed at doses that were extremely toxic (including lethal) to the mother. Fetotoxicity was not observed at doses that were not maternally toxic. The doses used in these studies were maximal, respirable concentrations, which are well in excess of defined occupational exposure limits.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure

Pre-existing respiratory and skin disorders and disorders involving any other target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

12 . Ecological information

Environmental effects : By comparison with an analogous product, the following values are anticipated. The measured ecotoxicity is that of the hydrolised product, generally under conditions maximising production of soluble species. Even so, the observed ecotoxicity is low/ very low. A pond study showed gross contamination caused no significant toxic effects on a wide variety of flora in all trophic levels (including fish), no detectable diaminodiphenylmethane (MDA), and no evidence of bioaccumulation of MDI or MDA.

Aquatic ecotoxicity

Product/ingredient name	Test	Endpoint		Exposure	Species	Result	
Diphenylmethane 4,4'-diisocyanate	OECD 202 *Daphnia* sp. Acute Immobilisation Test	Acute	EC50	24 hours Static	Daphnia	>1000	mg/l
	OECD 203 Fish, Acute Toxicity Test	Acute	LC50	96 hours Static	Fish	>1000	mg/l
	OECD 211 *Daphnia Magna* Reproduction Test	Chronic	NOEC	21 days Semi-static	Daphnia	>10	mg/l
	OECD 201 Alga, Growth Inhibition Test	Chronic	NOECr	72 hours Static	Algae	1640	mg/l
2,6-di-tert-butyl-p-cresol	EU EC C.3 Algal Inhibition Test	Acute	EC50	72 hours Static	Algae	>0.4	mg/l
	EU EC 88/302/EC	Acute	EC50	3 hours Static	Bacteria	>10000	mg/l
	OECD 202 *Daphnia* sp. Acute Immobilisation Test	Acute	EC50	48 hours Static	Daphnia	0.61	mg/l
	EU EC 88/302/EC	Chronic	EC0	3 hours Static	Bacteria	1000	mg/l
	EU EC C.2 Acute Toxicity for Daphnia	Chronic	EC0	48 hours Static	Daphnia	>0.31	mg/l
	EU EC C.1 Acute Toxicity for Fish	Chronic	LC0	96 hours Semi-static	Fish	>0.57	mg/l
	EU EC C.3 Algal Inhibition Test	Chronic	NOEC	72 hours Static	Algae	>0.42	mg/l
	OECD OECD 202: Part II (Daphnia sp., Reproduction Test	Chronic	NOEC	21 days Semi-static	Daphnia	0.316	mg/l

Persistence and degradability

12 . Ecological information

Product/ingredient name	Test	Period	Result
Diphenylmethane 4,4'-diisocyanate	OECD 302C Inherent Biodegradability: Modified MITI Test (II)	28 days	0 %

Conclusion/Summary : Diphenylmethane 4,4'-diisocyanate Not biodegradable

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Diphenylmethane 4,4'-diisocyanate	Fresh water 0.83 days	-	Not readily
2,6-di-tert-butyl-p-cresol	-	-	Inherent

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Diphenylmethane 4,4'-diisocyanate	4.51	200	low
2,6-di-tert-butyl-p-cresol	5.1	330 to 1800	high

Mobility in soil

Mobility : By considering the production and use of the substance, it is unlikely that significant environmental exposure in the air or water will arise. Immiscible with water, but will react with water to produce inert and non-biodegradable solids. Conversion to soluble products, including diamino- diphenylmethane (MDA), is very low under the optimal laboratory conditions of good dispersion and low concentration. In air, the predominant degradation process is predicted to be a relatively rapid OH radical attack, by calculation and by analogy with related diisocyanates.

Other adverse effects : No known significant effects or critical hazards.

Other ecological information

BOD5 : Not Determined

COD : Not Determined

TOC : Not Determined

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

14 . Transport information

Proper shipping name

DOT : OTHER REGULATED SUBSTANCES, LIQUID, N.O.S. (Methylene Diphenyl Diisocyanate)

TDG : Not regulated.

IMDG : Not regulated.

IATA : Not regulated.

Regulatory information	UN number	Classes	PG*	Label	Additional information
DOT Classification	NA3082	9	III		**Reportable quantity5000 lbs. (2270 kg)** Single containers less than 5,000 lbs. are not regulated.
TDG Classification	Not regulated.	-	-		-
IMDG Class	Not regulated.	-	-		-
IATA-DGR Class	Not regulated.	-	-		-

PG* : Packing group

15 . Regulatory information

United States

HCS Classification : Toxic material
Irritant
Sensitizer

U.S. Federal regulations

TSCA 8(b) inventory : **United States inventory (TSCA 8b)**: All components are listed or exempted.

TSCA 5(a)2 final significant new use rule (SNUR) : No ingredients listed.

TSCA 5(e) substance consent order : No ingredients listed.

TSCA 12(b) export notification : No ingredients listed.

SARA 311/312 : Immediate (acute) health hazard
Delayed (chronic) health hazard

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) :

Product name	CAS number	Concentration %
Diphenylmethane 4,4'-diisocyanate	101-68-8	97.784 - 99.87

15 . Regulatory information

Clean Air Act - Ozone Depleting Substances (ODS) : EPCRA Section 313 (40 CFR 372) CERCLA (Comprehensive Environmental Response, Compensation and Liability Act): 4,4-Methylene diphenyl diisocyanate (CAS 101-68-8) has a 5,000 lb. RQ (reportable quantity). Any spill or release above the RQ must be reported to the National Response Center (800-424-8802).

This product does not contain nor is it manufactured with ozone depleting substances.

	Product name	CAS number	Concentration %
SARA 313 Form R - Reporting requirements :	Diphenylmethane 4,4'-diisocyanate	101-68-8	97.784 - 99.87

CERCLA Hazardous substances :

Components	Concentration %	Section 304 CERCLA Hazardous Substance	CERCLA Reportable Quantity (Lbs)	Product Reportable Quantity (Lbs)
Diphenylmethane 4,4'-diisocyanate	99.87004225	Listed	5000	5007

State regulations

PENNSYLVANIA - RTK : Diphenylmethane 4,4'-diisocyanate

California Prop 65 : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

International regulations

Canada

WHMIS (Canada) : WHMIS Class D-2A: Material causing other toxic effects (Very toxic).
WHMIS Class D-2B: Material causing other toxic effects (Toxic).

CEPA DSL : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International lists : **Australia inventory (AICS)**: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Taiwan inventory (CSNN): Not determined.

16 . Other information

Label requirements : Harmful by inhalation. Irritating to eyes and respiratory system. May cause sensitization by inhalation and skin contact. This product is a respiratory irritant and potential respiratory sensitiser: repeated inhalation of vapour or aerosol at levels above the occupational exposure limit could cause respiratory sensitisation. A hyper-reactive response to even minimal concentrations of diisocyanates may develop in sensitised persons. The onset of the respiratory symptoms may be delayed for several hours after exposure.
Reacts slowly with water to produce carbon dioxide which may rupture closed containers. This reaction accelerates at higher temperatures.

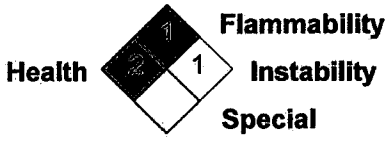
16 . Other information

Hazardous Material Information System (U.S.A.) :

Health	*	2
Flammability		1
Physical hazards		1
Personal protection		H

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



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Version : 2

▼ Indicates information that has changed from previously issued version.

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From: (281) 719-3010
Lon Tullos
Huntsman Corporation
8600 Gosling Road

THE WOODLANDS, TX 77381

Origin ID: MIFA

FedEx Express

J14101402070326

Ship Date: 08JUL14
ActWgt: 1.0 LB
CAD: 101155237/INET3490

Delivery Address Bar Code

SHIP TO: (281) 719-3010 BILL SENDER

Ms. Bonnie Hriczko
U.S. EPA-Region II
Removal Action Branch
2890 Woodbridge Ave, Bldg 205
EDISON, NJ 08837

Ref #
Invoice #
PO #
Dept #

WED - 09 JUL 10:30A
PRIORITY OVERNIGHT

TRK# 0201 7705 3473 1381

XA LDJA

08837
NJ-US
EWR

522G2/ED4F/F220

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1. Article Addressed to:

Huntsman Corp.
500 S. Huntsman Way
Salt Lake City, UT 84108
Attn: Peter R. Huntsman, President

COMPLETE THIS SECTION ON DELIVERY

A. Signature
* [signature] ☐ Agent ☐ Addressee

B. Received by (*Printed Name*) JR Nelson

C. Date of Delivery 6-17-2005

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

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(Transfer from service label) 7012 1640 0001 8519 4047

PS Form 3811, August 2001 Domestic Return Receipt 102595-01-M-2509

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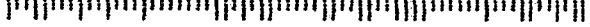
First-Class Mail
Postage & Fees Paid
USPS
Permit No. G-10

• Sender: Please print your name, address, and ZIP+4 in this box •

Bonnie Hriczko
U.S. Environmental Protection Agency
Removal Action Branch-(MS-211)
Building 205
2890 Wooodbridge Avenue
Edison, New Jersey 08837-3679

23JUN 12:14PM



SENDER: *COMPLETE THIS SECTION*

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Huntsman Corporation
500 S. Huntsman Way
Salt Lake City, UT 84108
Attn: Peter R. Huntsman, President

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name) Cliff Anderson

C. Date of Delivery 1-17-14

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number
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UNITED STATES POSTAL SERVICE

First-Class Mail
Postage & Fees Paid
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• Sender: Please print your name, address, and ZIP+4 in this box •

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